Curriculum Vitae

Name: Carol Ann Ziomek
Home Address: 17 Shadowbrook Lane #6, Milford, MA 01757
Date of Birth: Sept. 26, 1950, Wilkes-Barre, Penna.
Home Phone: (508) 473-5350
Current Position: Vice President, Development
Genzyme Transgenics Corporation
175 Crossing Blvd.
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Positions Held at GTC and Genzyme:

Vice President, Development: GTC, Framingham, MA. April 1996-present

Director, Development: GTC, Framingham, MA. July 1993-April 1996.

Principal Scientist: Genzyme Corporation, Framingham, MA. Oct. 1990-July 1993,

Other Work and Educational Background:

Staff Scientist: Worcester Foundation for Experimental Biology, Shrewsbury, MA. 1982-1990 - 3 NIH Grants.

Postdoctorate: Research associate on Medical Research Council and American Cancer Society funded projects in the laboratory of Dr. Martin H. Johnson, Dept. of Anatomy, University of Cambridge, Cambridge, U.K. Aug. 1978-Jan 1982.

Graduate: Ph.D. Biology, The Johns Hopkins University, Baltimore, Md. Sept. 1972-July 1978. Thesis work in Cell Biology with Dr. Michael Edidin. Course work in Biochemistry.

Undergraduate: B.S. Chemistry, Wilkes College, Wilkes-Barre, Penna. Sept. 1968-May 1972. Advisor: Dr. William Stine.

Teaching Background:

Worcester Foundation: Supervisor of two undergraduate and one graduate student and two postdoctoral fellows, Jan. 1984-Oct. 1990.

University of Cambridge: Supervisor to research technician (1980-1981) and one undergraduate research student (1981).
Guest lecturer in Cell Biology portion of the Part II Anatomy course-Fall 1979, Summer 1980, Fall 1980, Summer 1981, and Fall 1981.

Johns Hopkins University	Director of two undergraduate student research projects. Graduate teaching assistant for Cell Biology laboratory section-Spring 1974. Graduate teaching assistant and laboratory coordinator for the Biochemistry Biochemistry laboratory course-Fall 1973.
Wilkes College	Teaching assistant for the Introductory Chemistry Laboratory Sept. 1971-May 1972.

Fellowships:

Postdoctoral:	Sept. 1978-Aug. 1980, American Cancer Society Postdoctoral Fellow in the laboratory of Dr. M.H. Johnson, University of Cambridge.
Graduate:	Sept. 1976-July 1978, Johns Hopkins Fellowship.Sept. 1972-Aug. 1976, NIH Training Grant and Johns Hopkins Fellowship.
Undergraduate:	Sept. 1968-May 1972, Pennsylvania State Scholarship.

Meetings Organized

Scientific Organizing Committee for 2001 IBC BSP Symposium

Scientific Consultant for 2000 IBC BSP Symposium

Co-chairperson with Dr. Barbara Potts for 1999 IBC Symposium on Viral Clearance.

Chairperson of 1988-89 Boston Area Egg Club Program

Co-chairperson, with Drs. G. Schatten and N. Hecht, and Moderator for 1987 ASCB Subgroup Meeting entitled: From Egg to Embryo: Growth and Differentiation of the Early Mouse Embryo.

Publications (1996-Present) :

Ziomek, C.A. 1996. Minimization of viral contamination in human pharmaceuticals produced in the milk of transgenic goats. In: Viral Safety and Evaluation of Viral Clearance from Biopharmaceutical Products. Dev. Biol. Stand. (F. Brown and A.S. Lubiniecki, eds.) Vol. 88, pp. 265-268.

Ziomek, C.A. 1998. Commercialization of proteins produced in the mammary gland. Theriogenology 49:139-144.

Meade, H. and C. Ziomek. 1998. Urine as a substitute for milk? Nature Biotechnology 16:21-22.

Edmunds, T., S.M. Van Patten, J. Pollock, E. Hanson, R. Bernasconi, E. Higgins, P. Manavalan, C. Ziomek, H. Meade, J.M. McPherson and E.S. Cole. 1998. Transgenically produced human antithrombin: structural and functional comparison to human plasma-derived antithrombin. Blood 91:4561-4571.

Young, M.W., H. Meade, J. Curling, C. Ziomek, and M. Harvey. 1998. Production of recombinant antibodies in the milk of transgenic animals. Res Immunol. Jul-Aug; 149(6): 609-610.

Ziomek, C. 1999. Validation strategies for biopharmaceuticals: viral risk minimization for transgenic proteins from milk. Genetic Engineering News Apr. 15: 54.

Meade, H.M., Y. Echelard, C.A. Ziomek, M.W. Young, M. Harvey, E.S. Cole, S. Groet, T.E. Smith and J.M. Curling. 1999. Expression of recombinant proteins in the milk of transgenic animals. In: Gene Expression Systems: Using Nature for the Art of Expression. (J.M. Fernandez and J.P. Hoeffler, eds.) pp. 399-427.

Graff, K.J., M. Meintjes, V.W. Dyer, J.B. Paul, R.S. Denniston, C. Ziomek and R.A. Godke. 1999. Transvaginal ultrasound-guided oocyte retrieval following FSH stimulation of domestic goats. Theriogenology 51: 1099-1119

Baguisi, A., E. Behboodi, D.T. Melican, J.S. Pollock, M.M. Destrempes, C. Cammuso, J.L. Williams, S.D. Nims, C.A. Porter, P. Midura, M.J. Palacios, S.L. Ayres, R.S. Denniston, M.L. Hayes, C.A. Ziomek, H.M. Meade, R.A. Godke, W.G. Gavin, E.W. Overström and Y. Echelard. 1999. Production of goats by somatic cell nuclear transfer. Nature Biotechnol. 17: 456-461.

Cammuso, C., C. Porter, S. Nims, D. Gaucher, D. Melican, S. Bombard, N. Hawkins, A. O'Coin, C. Ricci, C. Brayman, N. Buzzell, C. Ziomek and W. Gavin. 2000. Hormonal induced lactation in transgenic goats. Animal Biotechnology. 11: 1-17.

Echelard, Y., C.A. Ziomek and H.M. Meade. 2000. Expression of recombinant proteins in the milk of transgenic goats. Proceedings of the 7th International Confernce on Goats. 1: 25-29.

Graff, K.J., M. Meintjes, Y. Han, B.C. Reggio, R.S. Denniston, W.G. Gavin, C. Ziomek and R.A. Godke. 2000. Comparing follicle stimulating hormone from two commercial sources for oocyte production from out-of-season dairy goats. Journal of Dairy Science. 83: 484-487.

Behboodi, E., W. Groen, M.M. Destrempes, J.L. Williams, C. Ohlrichs, W.G. Gavin, D.M. Broek, C.A. Ziomek, D.C. Faber, H.M. Meade and Y. Echelard. 2001. Transgenic production from in vivo-derived embryos: Effect on calf birth weight and sex ratio. Molec. Reprod. Dev. 9999:1-11.

Levy, J.H., A. Weisinger, C.A. Ziomek, Y. Echelard. (2001) Recombinant Antithrombin, Production and Role in Cardiovascular Disorders. Seminars in Thrombosis and Hemostasis, Vol. 27:405-416.

Plus 33 additional peer-reviewed publications 1980-1996.

Abstracts:

Lewis-Williams, J., T. Houseal, M. Harvey, P. DiTullio and C. Ziomek. (1993). Selection of transgenic preimplantation mouse embryos using fluorescence in situ hybridization. *Theriogenology* 39: 258.

Han, Y., M. Meintjes, K.J. Graff, R.S. Denniston, K.M. Ebert, C. Ziomek and R.A Godke. (1996). Offspring born from the transfer of caprine blastocysts after IVM/IVF and IVC of transvaginal ultrasound-guided aspirated oocytes. *Theriogenology* 45: 357.

Lewis-Williams, J., Y. Sun, Y. Han, C. Ziomek, R.S. Denniston, Y. Echelard and R. Godke. (1997). Birth of successfully identified transgenic goats using preimplantation stage embryos biopsied for FISH. Theriogenology 47: 226.

Wilburn, B., S. Nims, C. Cammuso, P. Midura, A. Oliver, T.E. Smith, D. Pollock, H. Meade, C. Ziomek, Y. Echelard and W.G. Gavin. (1998). Analysis of factors affecting embryo transfers in the production of transgenic goats. Theriogenology 49: 397.

Bols, P.E.J., M. Taneja, A. van de Velde, J. Riesen, D. Schreiber, Y. Echelard, C. Ziomek and X. Yang. (1999). Pregnancies from prepubertal heifers following repeated oocyte collections and IVF between 6 to 12 months of age. Theriogenology 51: 298.

Yang, X., Y. Dai, L. Chen, X.C. Tian, H. Meade, A. Van De Velde, M. Julian, F. Reinhart, D.L. Kaufman and C. Ziomek. (1999). Production of transgenic rabbits for the human glutamic acid decarboxylase. *Theriogenology* 51: 429.

Behboodi, E., W. Groen, W.G. Gavin, B. Wilburn, C.A. Ziomek, H.M. Meade, D. Faber and Y. Echelard. (2000). Birth weight and sex ratio of calves from microinjected embryos generated either from in vivo-or in vitro-matured oocytes. Theriogenology 53: 309.

Echelard, Y., W. Groen, M.M. Destrempes, C. Ohlrichs, J.L. Williams, C.A. Ziomek, D. Faber, H.M. Meade and E. Behboodi. (2000). Transgenic cow production from microinjection into in vivo-derived embryos. Theriogenology 53: 513.

Plus 10 additional abstracts prior to 1993.

1/3,AB/1
DIALOG(R)File 351:Derwent WPI

008962212
WPI Acc No: 1992-089481/199212
XRAM Acc No: C92-041223
Prodn. of silylated glyco-protein(s) - by expression of DNA coding for glyco-protein and silyl transferase in eukaryotic cells
Patent Assignee: BEHRINGWERKE AG (BEHW)
Inventor: BECKER A; GRUNDMANN U; HERMENTIN P; ZETTLMESSL G; ZETTLMEISSL G;
GRU ; ZETTLMEISS G
Number of Countries: 018 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4028800	A	19920312	DE 4028800	A	19900911	199212 B
EP 475354	A	19920318	EP 91115282	A	19910910	199212
AU 9183760	A	19920319	AU 9183760	A	19910910	199221
CA 2051047	A	19920312	CA 2051047	A	19910910	199221
PT 98917	A	19920831	PT 98917	A	19910910	199239
EP 475354	A3	19921216	EP 91115282	A	19910910	199344
JP 6105692	A	19940419	JP 91259860	A	19910911	199420
AU 661824	B	19950810	AU 9183760	A	19910910	199540

Priority Applications (No Type Date): DE 4028800 A 19900911
Patent Details:

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DE 4028800	A		12		
EP 475354	A		13		
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
JP 6105692	A		11	C12N-015/54	
AU 661824	B			C12P-021/02	Previous Publ. patent AU 9183760
AU 9183760	A			C12P-021/02	
CA 2051047	A			C12P-021/00	
PT 98917	A			C07K-015/00	

Abstract (Basic): EP 475354 A

Silylation of glycoproteins is effected by (a) causing a DNA sequence coding for a silyl transferase and a DNA sequence coding for a glycoprotein to be expressed in eukaryotic cells, and (b) isolating the silylated glycoprotein produced.

The silyl transferase inhuman galactoside alpha-2,3 silyl transferase (G23ST), human galactoside alpha-2,6 silyl transferase (G26ST) or human N-acetylgalactosaminoside alpha-2,6 silyl transferase (AG26ST). For prodn. of silylated recombinant glycoproteins, the host

cells are transformed first with a vector contg. one of the DNA sequences and a marker gene and then with a vector contg. the other DNA sequence and a marker gene, or the cells are transformed with a vector contg. both DNA sequences and a marker gene. For prodn. of silylated monoclonal antibodies, hybridoma cells are transformed with a vector contg. the DNA sequence coding for the silyl transferase.

USE/ADVANTAGE - The process may be used to produce silylated recombinant forms of glycoproteins such as antithrombin III (ATIII), erythropoietin, factor (VII), factor VIIIc, factor IX, tissue factor, interleukin receptors, TNF receptor or CD4, or silylated monoclonal antibodies. The silylated forms have a longer half-life in vivo than nonsialylated forms.

DE 4028800 A

Silylation of glycoproteins is effected by (a) causing a DNA sequence coding for a silyl transferase and a DNA sequence coding for a glycoprotein to be expressed in eukaryotic cells, and (b) isolating the silylated glycoprotein produced.

Specifically, the silyl transferase is human galactoside alpha-2,3 silyl transferase (G23ST), human galactoside alpha-2,6 silyl transferase (G26ST) or human N-acetylgalactosaminoside alpha-2,6 silyl transferase (AG26ST). For prodn. of sialyated recombinant glycoproteins, the host cells are transformed first with a vector contg. one of the DNA sequences and a marker gene and then with a vector contg. the other DNA sequence and a marker gene, or the cells are transformed with a vector contg. both DNA sequences and a marker gene. For prodn. of silylated monoclonal antibodies, hybridoma cells are transformed with a vector contg. the DNA sequence coding for the silyl transferase.

USE/ADVANTAGE - The process may be used to produce silylated recombinant forms of glycoproteins such as antithrombin III (ATIII), erythropoietin, factor VII, factor VIIIc, factor IX, tissue factor, interleukin receptors, TNF receptor or CD4, or silylated monoclonal antibodies